

Author Index of Volume 51

- Aguayo, A. T., 45, 53, 167
Ajongwen, J. N., B43
Akintoye, A., B43
Alvarez, J., B11
Ananth, M. S., 19
Arandes, J. M., 45, 53, 167
Atiqullah, M., B25
- Barker, P. E., B43
Barnard, E., 151
Bascoul, A., 135
Beg, S. A., B25
Bilbao, J., 45, 53, 167
Bjerle, I., 99
Buurman, C., 29
- Chen, T.-L., 77
Chiang, C.-L., B21
Couderc, J. P., 135
- Delmas, H., 135
Díaz, M., B57
Dutt, N. V. K., 41
Dutta, B. K., 93
- Ganetsos, G., B43
García, A. I., B57
García, L. A., B57
Gayubo, A. G., 167
Geisler, R. K., 29
Ghildyal, N. P., B17
- Golding, J. A., 7
Guru, S., 109
- Hassan, M. M., B25
Holland, C. D., 63
Hopkins, J. S., 7
Hori, Y., 129
- Jang, S.-S., 83
Jayaraman, V. K., B63
- Karanth, N. G., B17
Khan, A. A., 1
Khan, G. Y., 1
Koloini, T., B51
Kovvali, A. S., 1
Koyanagi, T., 121
Krishnaiah, K., 109
Krishnaiah, M. M., B17
Kumazawa, H., 129
- Latil, S. L., 63
Leitão, A., 159
Lonsane, B. K., B17
- Maruyama, T., 121
Meraz, M., B11
Mersmann, A. B., 29
Middya, U., 93
- Naugle, N. W., 63
- Olausson, S., 99
Olazar, M., 45, 53, 167
Oliver, D. R., 113
- Plazl, I., B51
- Rahman, A. K. M. S., B25
Rajiah, A., 41
Ramakrishna, M., B17
Ratnam, G. S. V., 19
Ravikumar, Y. V. L., 41
Ray, P., 93
Rodrigues, A., 159
- Sada, E., 129
San José, M. J., 45, 53
Sekar, V., 109
Shah, P. R., 1
Shieh, M. T., B43
Šmidovnik, A., B51
Sterbacek, Z., B35
- Tsai, S.-W., B21
- Van der Walt, T. J., 151
Van Deventer, J. S. J., 151
Varma, Y. B. G., 19
Vazquez-Esparragoza, J. J., 63
Votruba, J., B35
- Wallin, M., 99
Weng, H.-S., 77
Wu, J.-Y., 77



Subject Index of Volume 51

- Absorption
 - a model for the absorption of sulphur dioxide into a limestone slurry, 99
- Acetate ions
 - prediction of permselectivity of nitrate and acetate ions in the electrodialysis of aqueous solutions, 1
- Adsorbent heterogeneity
 - modelling of solid–liquid adsorption: effects of adsorbent heterogeneity, 159
- Adsorption
 - modelling of solid–liquid adsorption: effects of adsorbent heterogeneity, 159
- Amyloglucosidase levels
 - temperature variations and amyloglucosidase levels at different bed depths in a solid state fermentation system, B17
- Batch distillation
 - dynamic optimization of multicomponent batch distillation processes using continuous and discontinuous collocation polynomial policies, 83
- Batch fermenters
 - mixing in unstirred batch fermenters, B57
- Bed depth
 - temperature variations and amyloglucosidase levels at different bed depths in a solid state fermentation system, B17
- Biaxial stretching
 - uniaxial and biaxial stretching of silicone putty, 113
- Biocatalytic transformations
 - strategy for deciding between the use of single or biphasic systems as media for biocatalytic transformations using chemical equilibrium analysis, B21
- Biological growth
 - the order of micromixing and segregation effects on the biological growth process in a stirred-tank reactor, B25
- Bioreactors
 - an expert system applied to the control of an industrial-scale bioreactor, B35
 - solution of hollow fibre bioreactor design equations for zero-order limit of Michaelis–Menten kinetics, B63
- Biosynthesis
 - large-scale purification of *Leuconostoc mesenteroides* NRRL B512F dextranase for use in the biosynthesis of dextran by batch and continuous chromatography, B43
- Catalytic reactors
 - temperature vs. time sequences to palliate deactivation in parallel and in series–parallel with the main reaction: parametric study, 167
- Catalytic transfer hydrogenation
 - kinetics of catalytic transfer hydrogenation of soybean oil, B51
- Chemical equilibrium analysis
 - strategy for deciding between the use of single or biphasic systems as media for biocatalytic transformations using chemical equilibrium analysis, B21
- Chromatography
 - large-scale purification of *Leuconostoc mesenteroides* NRRL B512F dextranase for use in the biosynthesis of dextran by batch and continuous chromatography, B43
- Collocation polynomial policies
 - dynamic optimization of multicomponent batch distillation processes using continuous and discontinuous collocation polynomial policies, 83
- Conical contactors
 - expansion of spouted beds in conical contactors, 45
- Conical spouted beds
 - pressure drop in conical spouted beds, 53
- Dextran
 - large-scale purification of *Leuconostoc mesenteroides* NRRL B512F dextranase for use in the biosynthesis of dextran by batch and continuous chromatography, B43
- Dynamic modelling
 - dynamic optimization of multicomponent batch distillation processes using continuous and discontinuous collocation polynomial policies, 83
- Electrodialysis
 - prediction of permselectivity of nitrate and acetate ions in the electrodialysis of aqueous solutions, 1
- Enzyme activity
 - control of enzyme activity in stirred bioreactors, B11
- Enzyme dextranase
 - large-scale purification of *Leuconostoc mesenteroides* NRRL B512F dextranase for use in the biosynthesis of dextran by batch and continuous chromatography, B43
- Expansion
 - expansion of spouted beds in conical contactors, 45
- Fast Fourier transform technique
 - estimation of kinetic parameters in a fixed bed reactor: application of fast Fourier transform, 77
- Fermentation
 - mixing in unstirred batch fermenters, B57
- Fixed-bed reactors
 - estimation of kinetic parameters in a fixed bed reactor: application of fast Fourier transform, 77
- Fluidization
 - fluidization in tapered vessels, 121
- Fluidized beds
 - movement of solid particles in liquid-solid fluidization, 135
- Functional transformation method
 - solution of difficult steady state separation problems by use of the functional transformation method, 63
- Gas–liquid cocurrent downflow
 - a model for the pressure drop in gas–liquid cocurrent downflow through packed beds, 19

- Gas-liquid-solid fluidization
 - hydrodynamic studies on inverse gas-liquid-solid fluidization, 109
- Heat transfer rate
 - the effect of heat transfer rate on the characteristics and operation of a tubular reactor, 7
- Hollow fibre bioreactors
 - solution of hollow fibre bioreactor design equations for zero-order limit of Michaelis-Menten kinetics, B63
- Hydrodynamic studies
 - hydrodynamic studies on inverse gas-liquid-solid fluidization, 109
- Hydrolysis
 - synthesis of spherical zirconia fine particles by controlled hydrolysis of zirconium tetrabutoxide in 1-propanol, 129
- Inverse fluidization
 - hydrodynamic studies on inverse gas-liquid-solid fluidization, 109
- Kinematic viscosity
 - the estimation of kinematic viscosity of petroleum crude oils and fractions with a neural net, 151
- Kinetic parameters
 - estimation of kinetic parameters in a fixed bed reactor: application of fast Fourier transform, 77
- Kinetics
 - kinetics of catalytic transfer hydrogenation of soybean oil, B51
 - solution of hollow fibre bioreactor design equations for zero-order limit of Michaelis-Menten kinetics, B63
- Leuconostoc mesenteroides*
 - large-scale purification of *Leuconostoc mesenteroides* NRRL B512F dextranucrase for use in the biosynthesis of dextran by batch and continuous chromatography, B43
- Limestone slurry
 - a model for the absorption of sulphur dioxide into a limestone slurry, 99
- Liquid fluidized beds
 - movement of solid particles in liquid-solid fluidization, 135
- Liquid viscosities
 - prediction of liquid viscosities of phosphorus-containing compounds by Souders' method, 41
- Mass transfer
 - non-isothermal enhancement factor for mass transfer with instantaneous reaction in a rigid drop, 93
- Michaelis-Menten kinetics
 - solution of hollow fibre bioreactor design equations for zero-order limit of Michaelis-Menten kinetics, B63
- Micromixing
 - the order of micromixing and segregation effects on the biological growth process in a stirred-tank reactor, B25
- Mixing characteristics
 - mixing in unstirred batch fermenters, B57
- Modelling
 - a model for the absorption of sulphur dioxide into a limestone slurry, 99
 - modelling of solid-liquid adsorption: effects of adsorbent heterogeneity, 159
- Neural net
 - the estimation of kinematic viscosity of petroleum crude oils and fractions with a neural net, 151
- Nitrate ions
 - prediction of permselectivity of nitrate and acetate ions in the electrodialysis of aqueous solutions, 1
- Non-isothermal enhancement
 - non-isothermal enhancement factor for mass transfer with instantaneous reaction in a rigid drop, 93
- Oil fractions
 - the estimation of kinematic viscosity of petroleum crude oils and fractions with a neural net, 151
- Packed beds
 - a model for the pressure drop in gas-liquid cocurrent downflow through packed beds, 19
- Palliate deactivation
 - temperature vs. time sequences to palliate deactivation in parallel and in series-parallel with the main reaction: parametric study, 167
- Parametric study
 - temperature vs. time sequences to palliate deactivation in parallel and in series-parallel with the main reaction: parametric study, 167
- Permselectivity
 - prediction of permselectivity of nitrate and acetate ions in the electrodialysis of aqueous solutions, 1
- Petroleum crude oils
 - the estimation of kinematic viscosity of petroleum crude oils and fractions with a neural net, 151
- Phosphorus
 - prediction of liquid viscosities of phosphorus-containing compounds by Souders' method, 41
- Power input
 - scale-up of the necessary power input in stirred vessels with suspensions, 29
- Pressure drop
 - pressure drop in conical spouted beds, 53
- Pressure drop model
 - a model for the pressure drop in gas-liquid cocurrent downflow through packed beds, 19
- 1-Propanol
 - synthesis of spherical zirconia fine particles by controlled hydrolysis of zirconium tetrabutoxide in 1-propanol, 129
- Purification
 - large-scale purification of *Leuconostoc mesenteroides* NRRL B512F dextranucrase for use in the biosynthesis of dextran by batch and continuous chromatography, B43
- Rigid drop
 - non-isothermal enhancement factor for mass transfer with instantaneous reaction in a rigid drop, 93
- Segregation
 - the order of micromixing and segregation effects on the biological growth process in a stirred-tank reactor, B25
- Silicone putty
 - uniaxial and biaxial stretching of silicone putty, 113

- Solid-liquid adsorption
 modelling of solid-liquid adsorption: effects of adsorbent heterogeneity, 159
- Solid motion
 movement of solid particles in liquid-solid fluidization, 135
- Solid state fermentation system
 temperature variations and amyloglucosidase levels at different bed depths in a solid state fermentation system, B17
- Souders' method
 prediction of liquid viscosities of phosphorus-containing compounds by Souders' method, 41
- Soybean oil
 kinetics of catalytic transfer hydrogenation of soybean oil, B51
- Spherical fine particles
 synthesis of spherical zirconia fine particles by controlled hydrolysis of zirconium tetrabutoxide in 1-propanol, 129
- Spouted beds
 expansion of spouted beds in conical contactors, 45
- Steady state separation
 solution of difficult steady state separation problems by use of the functional transformation method, 63
- Stirred bioreactors
 control of enzyme activity in stirred bioreactors, B11
- Stirred-tank reactors
 the order of micromixing and segregation effects on the biological growth process in a stirred-tank reactor, B25
- Stirred vessels
 scale-up of the necessary power input in stirred vessels with suspensions, 29
- Sulphur dioxide
 a model for the absorption of sulphur dioxide into a limestone slurry, 99
- Suspensions
 scale-up of the necessary power input in stirred vessels with suspensions, 29
- Synthesis
 synthesis of spherical zirconia fine particles by controlled hydrolysis of zirconium tetrabutoxide in 1-propanol, 129
- System control
 an expert system applied to the control of an industrial-scale bioreactor, B35
- Tapered vessels
 fluidization in tapered vessels, 121
- Temperature
 temperature *vs.* time sequences to palliate deactivation in parallel and in series-parallel with the main reaction: parametric study, 167
- Temperature variations
 temperature variations and amyloglucosidase levels at different bed depths in a solid state fermentation system, B17
- Time sequences
 temperature *vs.* time sequences to palliate deactivation in parallel and in series-parallel with the main reaction: parametric study, 167
- Tubular reactor
 the effect of heat transfer rate on the characteristics and operation of a tubular reactor, 7
- Uniaxial stretching
 uniaxial and biaxial stretching of silicone putty, 113
- Zero-order limit
 solution of hollow fibre bioreactor design equations for zero-order limit of Michaelis-Menten kinetics, B63
- Zirconia
 synthesis of spherical zirconia fine particles by controlled hydrolysis of zirconium tetrabutoxide in 1-propanol, 129
- Zirconium tetrabutoxide
 synthesis of spherical zirconia fine particles by controlled hydrolysis of zirconium tetrabutoxide in 1-propanol, 129

